WHAT IS CLAIMED IS:

1. A system for network management comprising:

a plurality of network elements;

an element management system (EMS) connected to the plurality of network
5   elements;

a Presence and Instant Messaging (PIM) engine interfaced to the EMS and a
plurality of PIM clients operably associated with the network elements, the PIM
clients in logical communication with the PIM engine, the PIM engine and PIM
clients providing presence service and instant messaging between the EMS and
10   network elements; and,

northbound interface means for communication between the EMS and a
network management system (NMS).

2. A system for network management as defined in claim 1 further comprising a
PIM client operably associated with the NMS for presence service and instant
15   messaging.

3. A system for network management as defined in claim 1 wherein the EMS
further incorporates an adaptor for network mediation having communication stacks
to accommodate PIM presence service and instant message traffic between the PIM
clients and the PIM engine and to further accommodate at least one alternative
20   standard communication protocol.

4. A system for network management as defined in claim 3 wherein the at least
one alternative communication protocol is selected from the set of SNMP, CORBA,
FTP/TFTP, TL1 and CLI.

5. A system for network management as defined in claim 3 wherein the managed
25   network includes a second plurality of network elements, said second plurality of
network elements communicating through the adaptor using the at least one
alternative standard communication protocol.

6. A system for network management as defined in claim 1 wherein the EMS
further incorporates a managed object repository for storing presentity of the plurality
30   of network elements provided through the PIM presence service.

7.   A system for network management as defined in claim 1 wherein the PIM employs XML format.

8.   A system for network management as defined in claim 1 wherein the EMS further includes fault management, configuration management, accounting management, performance management and security management (FCAPS) modules, said modules adapted for communication through the PIM.

9.   A system for network management as defined in claim 1 wherein the EMS further includes means for operator interface.

10.   A system for network management as defined in claim 9 wherein the operator interface means comprises a Graphical User Interface (GUI).

11.   A fully integrated network management system comprising:

a plurality of network elements;

at least one element management system (EMS) connected to the plurality of network elements;

a network management system (NMS) connected through a northbound interface from the EMS;

a Service Management System (SMS) connected through a northbound interface from theNMS;

a Presence and Instant Messaging (PIM) engine interfaced to the EMS and a plurality of PIM clients operably associated with the network elements, the EMS, the NMS and the SMS, the PIM clients in logical communication with the PIM engine, the PIM engine and PIM clients providing presence service and instant messaging between the EMS, NMS, SMS and network elements.

12.   A method for management of a network with a plurality of network elements employing a network management system (NMS) and at least one element management system (EMS) comprising the steps of:

providing a Network Presence and Instant Messaging (PIM) engine;

providing a plurality of PIM clients associated with each of the plurality of network elements and the EMS;

communicating presence of any element of the network by presentity through the PIM engine and clients;

maintaining a data base of presentity in the EMS; and,

communicating between the EMS and network elements by instant messaging through the PIM engine and clients.

13.   A method for management of a network as defined in claim 12 further comprising the steps of:

providing a PIM client associated with the NMS;

communicating presence of the NMS and EMS by presentity through the PIM engine and clients; and

communicating between the EMS and NMS by instant messaging through the PIM engine and clients.

15.   A method for management of a network as defined in claim 12 wherein the EMS includes fault management, configuration management, accounting management performance management and security management (FCAPS) modules and wherein the step of communicating between the EMS and network elements includes the step of: .

communicating fault management, configuration management, accounting management, performance management and security management data by presence service and instant messaging.

16.   A method for management of a network as defined in claim 12 wherein a Service Management System (SMS) is incorporated in the network and further comprising the steps of

providing a PIM client associated with the SMS;

communicating presence of the SMS by presentity through the PIM engine and clients; and

communicating between the EMS, NMS and SMS by instant messaging through the PIM engine and clients.

17.   A method for management of a network as defined in claim 16 further comprising the step of maintaining a management relationship among the SMS, NMS, and EMS using a buddy group.

18.   A method for management of a network as defined in claim 16 wherein the network includes a security server and further wherein the steps of:

        communicating presence further comprises including security profile information; and

        communicating between the network elements, EMS, NMS and SMS by instant messaging through the PIM engine and clients further comprises limiting communication response based on the security profile.

19.   A method for management of a network as defined in claim 16 further comprising the step of monitoring the availability of network/service resources using the presence and instant messaging service.

20.   A method for management of a network as defined in claim 16 further comprising the step of including all related operators as PIM clients together with the managed network elements and NMS/EMS components in a buddy group to support domain-based network management.